# Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION

## User's Manual

# *Infrared Remote Control*

## IR 102 Kit

68-663-01 **Rev. D**
12 06

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# Precautions

## Safety Instructions • English

**This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.**

**This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.**

### Caution

**Read Instructions** • Read and understand all safety and operating instructions before using the equipment.

**Retain Instructions** • The safety instructions should be kept for future reference.

**Follow Warnings** • Follow all warnings and instructions marked on the equipment or in the user information.

**Avoid Attachments** • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

## Consignes de Sécurité • Français

**Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).**

**Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.**

### Attention

**Lire les instructions**• Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

**Conserver les instructions**• Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

**Respecter les avertissements** • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

**Eviter les pièces de fixation** • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

## Sicherheitsanleitungen • Deutsch

**Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.**

**Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.**

### Achtung

**Lesen der Anleitungen** • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

**Aufbewahren der Anleitungen** • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

**Befolgen der Warnhinweise** • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

**Keine Zusatzgeräte** • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

## Instrucciones de seguridad • Español

**Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.**

**Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.**

### Precaucion

**Leer las instrucciones** • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

**Conservar las instrucciones** • Conservar las instrucciones de seguridad para futura consulta.

**Obedecer las advertencias** • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

**Evitar el uso de accesorios** • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

### Warning

**Power sources** • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

**Power disconnection** • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

**Power cord protection** • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

**Servicing** • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

**Slots and openings** • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

**Lithium battery** • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

### Avertissement

**Alimentations**• Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

**Déconnexion de l'alimentation**• Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

**Protection du cordon d'alimentation** • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

**Réparation-maintenance** • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

**Fentes et orifices** • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

**Lithium Batterie** • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

### Vorsicht

**Stromquellen** • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

**Stromunterbrechung** • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

**Schutz des Netzkabels** • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

**Wartung** • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

**Schlitze und Öffnungen** • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

**Litium-Batterie** • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

### Advertencia

**Alimentación eléctrica** • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

**Desconexión de alimentación eléctrica** • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

**Protección del cables de alimentación** • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

**Reparaciones/mantenimiento** • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

**Ranuras y aberturas** • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalientamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

**Batería de litio** • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

# FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

# Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

**USA, Canada, South America, and Central America:**
Extron Electronics
1001 East Ball Road
Anaheim, CA 92805, USA

**Europe, Africa, and the Middle East:**
Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands

**Asia:**
Extron Electronics, Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363

**Japan:**
Extron Electronics, Japan
Kyodo Building
16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

***If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.***

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

# 安全须知 • 中文

**这个符号提示用户该设备用户手册中有重要的操作和维护说明。**

**这个符号警告用户该设备机壳内有暴露的危险电压，有触电危险。**

## 注意

**阅读说明书** • 用户使用该设备前必须阅读并理解所有安全和使用说明。

**保存说明书** • 用户应保存安全说明书以备将来使用。

**遵守警告** • 用户应遵守产品和用户指南上的所有安全和操作说明。

**避免追加** • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

## 警告

**电源** • 该设备只能使用产品上标明的电源。 设备必须使用有地线的供电系统供电。 第三条线（地线）是安全设施，不能不用或跳过。

**拔掉电源** • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

**电源线保护** • 妥善布线， 避免被踩踏，或重物挤压。

**维护** • 所有维修必须由认证的维修人员进行。 设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

**通风孔** • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。 不要用任何东西挡住通风孔。

**锂电池** • 不正确的更换电池会有爆炸的危险。 必须使用与厂家推荐的相同或相近型号的电池。 按照生产厂的建议处理废弃电池。

# Table of Contents


**Chapter One • Installation and Operation** ..... 1-1

- About the IR 102 Kit ..... 1-2
- Mounting the IR 102 Rx remote receiver ..... 1-2
  - Rack mounting ..... 1-2
    - UL requirements ..... 1-3
    - Rack mounting instructions ..... 1-3
  - Furniture mounting ..... 1-5
  - Projector mounting ..... 1-5
    - Mounting using the PMK 100 mini projector mounting kit ..... 1-5
    - Mounting using the PMK 300 projector mounting kit ..... 1-6
    - Mounting using the PMK 350 projector mounting kit ..... 1-9
- Connecting the IR 102 Rx to a Switcher ..... 1-10
- Features and Connections ..... 1-11
- Installing Batteries in the Remote Control ..... 1-14
- Operation ..... 1-15
  - Working with a control system ..... 1-15

**Appendix A • Specifications, Part Numbers, and Accessories** ..... A-1

- Specifications ..... A-2
- Included Parts ..... A-3
- Accessories ..... A-3



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68-663-01 **Rev. D**
12 06

# Chapter One

## Installation and Operation

About the IR 102 Kit

Mounting the IR 102 Rx remote receiver

Connecting the IR 102 Rx to a Switcher

Features and Connections

Installing Batteries in the Remote

Operation

## About the IR 102 Kit

The Extron IR 102 Kit is an infrared (IR) remote control kit that can control a variety of Extron switchers and other devices via RS-232 or contact closure. This kit contains the following items:

- (1) IR 102 handheld remote control
- (1) IR 102 Rx remote receiver
- (1) IR Sensor

## Mounting the IR 102 Rx remote receiver

The IR 102 Rx remote receiver can be mounted on a rack shelf, under a desk or tabletop, or on a projector bracket. There are many optional accessories for mounting the IR 102 Rx, including the following items:

- RSF 123 — 1U, 3.5" deep, VersaTools® rack shelf kit (part #60-190-20)
- RSB 123 — 1U, 3.5" deep, basic VersaTools rack shelf (part #60-604-20)
- RSU 126 — 1U, 6" deep, universal rack shelf kit (part #60-190-10)
- RSB 126 — 1U, 6" deep, basic rack shelf (part #60-604-10)
- RSU 129 — 1U, 9.5" deep, universal rack shelf kit (part #60-190-01)
- RSB 129 — 1U, 9.5" deep, basic rack shelf (part #60-604-01)
- MBU 123 mini under-desk mounting bracket kit (part #70-212-01)
- VersaTools projector mounting kits — PMK 100 (part #70-367-01), PMK 300 (part #70-374-01), and PMK 350 (part #70-563-02, -03)

### Rack mounting

For optional rack mounting, mount the IR 102 Rx remote receiver on one of the rack shelves listed above. On the standard 9.5" deep rack shelf, the remote receiver mounts in one of four locations to the rear of the rack or in one of four locations to the front of the rack.



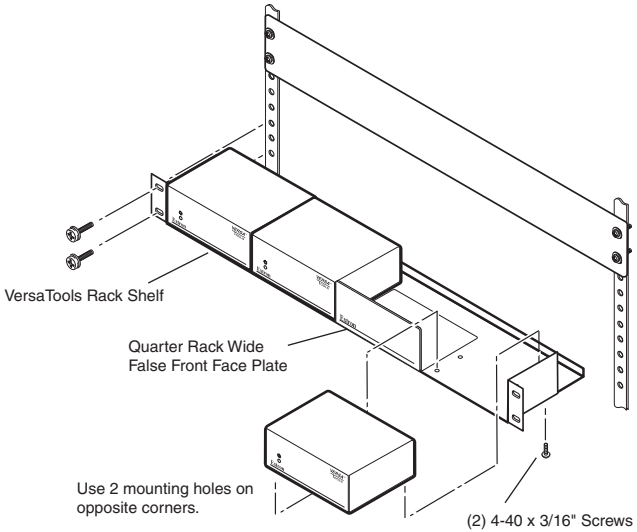
#### UL requirements

The following Underwriters Laboratories (UL) requirements pertain to the installation of the IR 102 Rx into or onto a rack.

1. **Elevated operating ambient** — If the equipment is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
2. **Reduced air flow** — Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
3. **Mechanical loading** — Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
4. **Circuit overloading** — Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
5. **Reliable earthing (grounding)** — Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (such as the use of power strips).

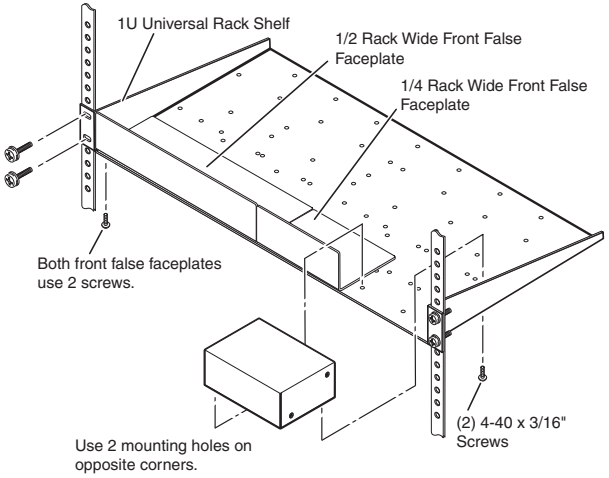
#### Rack mounting instructions

1. If rubber feet were previously installed on the bottom of the remote receiver, remove them.
2. Mount the remote receiver on the rack shelf, using two 4-40 x 3/16" screws in opposite (diagonal) corners to secure the remote receiver to the shelf.
3. Install blank panel(s) or other unit(s) to the rack shelf.
4. Insert the shelf into the rack, aligning the holes in the shelf with those of the rack.
5. Secure the shelf to the rack using the supplied machine screws. This shelf can be mounted in the front or in the rear of the rack.




***Mounting the IR 102 Rx remote receiver on a VersaTools rack shelf***

**NOTE** *Only products in the VersaTools line and certain IP Link products can be mounted to a VersaTools shelf. Any 1U rack-mountable Extron product can be mounted on the standard shelf.*

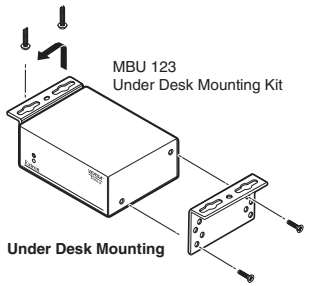



***Mounting the IR 102 Rx remote receiver on a standard rack shelf***



## Furniture mounting

Furniture mount the IR 102 Rx remote receiver using optional mounting kit #70-212-01 as follows:




1. Attach the mounting brackets to the remote receiver with the provided machine screws.
2. If rubber feet were previously installed on the bottom of the remote receiver, remove them.
3. Hold the remote receiver with the attached brackets against the underside of the table or other furniture. Mark the location of the screw holes of the bracket on the mounting surface.
4. Drill 3/32" (2 mm) diameter pilot holes, 1/4" (6.3 mm) deep in the mounting surface at the marked screw locations.
5. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until just less than 1/4" of the screw head protrudes.
6. Align the mounting screws with the slots in the brackets and place the remote receiver against the surface, with the screws through the bracket slots.
7. Slide the receiver slightly forward or back, then tighten all four screws to secure the remote receiver in place.

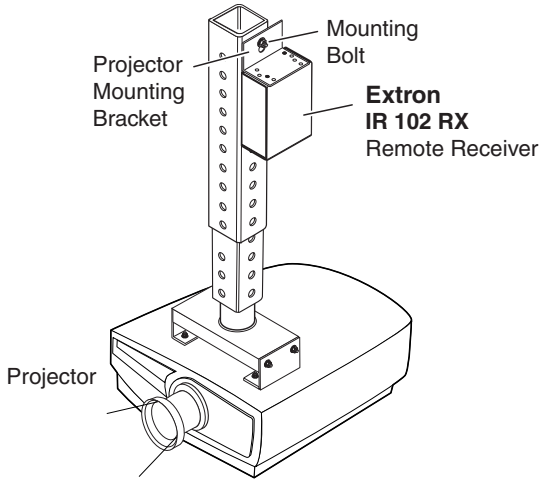
## Projector mounting

Projector mounting procedures differ depending on the mounting kit you use.

### Mounting using the PMK 100 mini projector mounting kit

Projector mount the IR 102 Rx using optional PMK 100 mini Projector mounting kit, part #70-217-01, as follows:

1. Attach the mounting brackets to the IR 102 remote receiver with the provided machine screws.
2. If rubber feet were previously installed on the bottom of the receiver, remove them.
3. Secure the remote receiver to a projector mount or other surface by inserting the mounting bolt through the bracket's slotted hole and tightening the bolt. (See the illustration on the next page.)



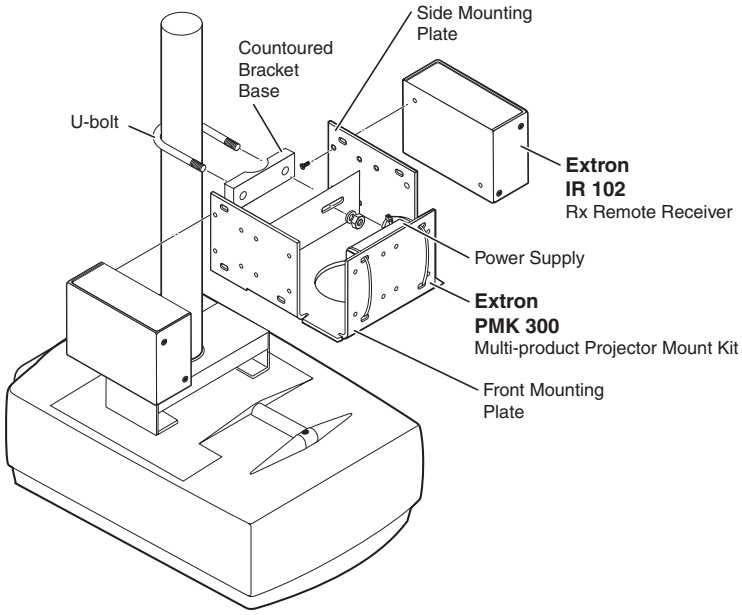

***Projector mounting the IR 102 Rx using the PMK 100 mini projector mounting kit (#70-217-01)***

### Mounting using the PMK 300 projector mounting kit

Alternatively, the IR 102 Rx remote receiver can be projector mounted using the optional PMK 300 multi-product projector mounting kit, part #70-374-01.

**NOTE** *Only VersaTools products and most IP Link products can be mounted using the multi-product projector mounting kit.*

The PMK 300 multi-product projector mounting kit (#70-374-01) mounts up to three quarter-rack width products to a projector ceiling mount pole. The IR 102 Rx can be mounted above the display device with the front panel facing either down or up. The quarter rack width plate can also be used to mount the IR 102's external desktop power supply.

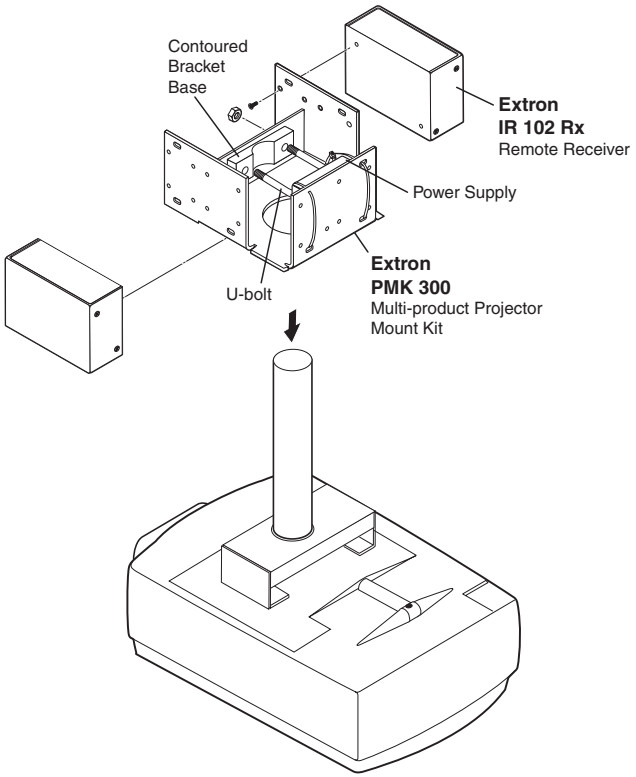



***Projector-mounting the IR 102 Rx using the PMK 300 projector mounting kit (#70-374-01)***

Follow these steps to mount the IR 102 Rx receiver using the PMK 300:

1. If necessary, remove the feet from the bottom of the IR 102.
2. Mount the IR 102 to one of the bracket's three mounting plates, using two of the supplied 4-40 x 3/16" screws in opposite (diagonal) corners to secure the device to the bracket. It can be vertically mounted facing either up or down. See the illustration, above.
   - On the side mounting plates, the IR 102 is typically mounted on the outside of the bracket.
   - On the front mounting plate, the device is typically mounted on the inside of the bracket.
3. Using the two included tie wraps, strap the power supply to one of the brackets.
4. Place the contoured bracket base against the projector ceiling pole and opposite the back plate. The pole should fit snugly into the depression in the center of the contoured base.

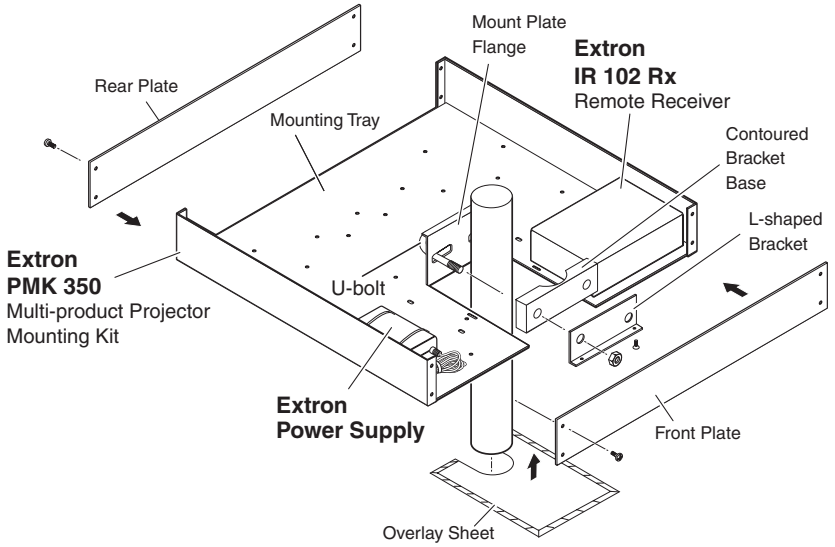
**NOTE** *The PMK 300 has a hole in the bottom plate that allows the projector pole to be inserted through the center of the plate, rather than outside of the plate (see the illustration below). To install the PMK 300 in this configuration, slide the bracket up from the bottom of the pole before the projector is installed on the pole.*




***Mounting the IR 102 Rx using the PMK 300 with the projector pole passing through the center***

### Mounting using the PMK 350 projector mounting kit

The IR 102 Rx can also be mounted using the PMK 350, as shown below.




***Projector mounting the IR 102 Rx using the PMK 350 projector mounting kit, #70-563-02 or #70-563-03***

The PMK 350 low profile projector mounting kit is an above-projector mounting kit that attaches to a 1.5" to 2" diameter projector mounting pole. It can hold more than one device, in a variety of sizes.

The PMK 350 is available in black (part #70-563-02) or white (part #70-563-03).

Follow these steps to mount the IR 102 Rx on the PMK 350:

1. Remove the front panel from the PMK, using a #2 Philips screwdriver. Retain the four screws to reattach the plate when finished.
2. Remove any rubber feet from the bottom of the IR 102 Rx.
3. Secure the IR 102 Rx to one side of the mounting bracket, using two of the supplied 4-40 x 3/16" screws in opposite (diagonal) corners. Use an Extron Tweeker (provided) or a Philips #1 screwdriver to tighten the screws.
4. Using the two included tie wraps, strap the IR 102 Rx power supply to the PMK bracket.

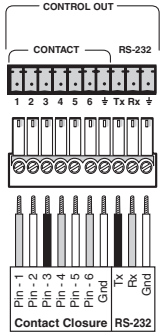
5. If desired, remove the back panel of the PMK 350 and mount an additional IR 102 Rx or other device(s) at the back of the bracket, as described in step **3** on the previous page.
6. Place the PMK 350 mounting tray around the projector ceiling mounting pole. (See the illustration on page 1-9.)
7. Assemble the U-bolt and the following parts in the order they are listed below:
   - **a**. Pass the legs of the U-bolt through the slotted holes on the back of the mount plate flange.
   - **b**. Place the U-bolt legs around the ceiling pole.
   - **c**. Pass the U-bolt legs through the round holes in the contoured base.

**NOTE** *Place the contoured base against the pole and opposite the mount plate flange. The pole should fit snugly into the depression in the center of the contoured base.*

   - **d**. Pass the U-bolt legs through the round holes in the L-shaped bracket.
8. Align the two round holes in the bottom of the L bracket with the two slotted holes in the base of the PMK 350, on either side of the opening for the pole; and attach the L-shaped bracket to the base by inserting the two provided 6-32 x 5/16" screws through the aligned slots. Tighten the screws slightly; you should still be able to slide the L-shaped bracket to adjust it as needed.

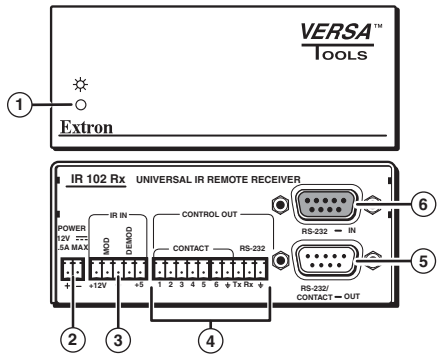
## Connecting the IR 102 Rx to a Switcher

1. Power down the switcher.
2. Connect the IR 102 Rx to the switcher via the RS-232 or contact closure ports, available on both 9-pin and captive screw connectors.
3. Position the IR sensor at the best location for the IR 102 handheld remote control.
4. Connect the IR Sensor to the IR In connector on the remote receiver.
5. Connect the external power supply to the remote receiver, then plug one end of a standard IEC power cord into the power supply and the other end into a 100-240 VAC, 50/60 Hz power source.
6. Power up the switcher.






## Features and Connections

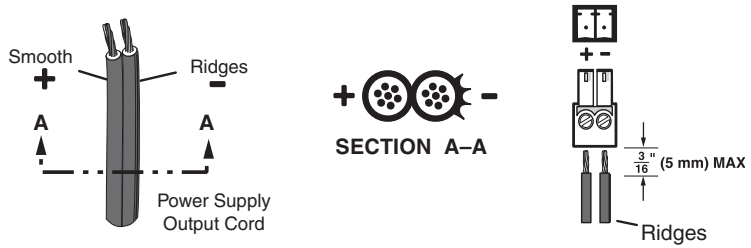



***IR 102 Rx remote receiver front and rear panels***

(1) **Power LED** — When lit, this LED indicates power is applied. The LED blinks during communication activity.

(2) **Power connector** — Plug the external 12 V power supply into this 2-pole captive screw connector. The power supply is included with the unit. The figure below shows how to wire the connector.

**CAUTION** *When connecting the power supply, voltage polarity is extremely important. Applying power with incorrect voltage polarity could damage the power supply and the remote receiver. Identify the power cord negative lead by the ridges on the side of the cord.*



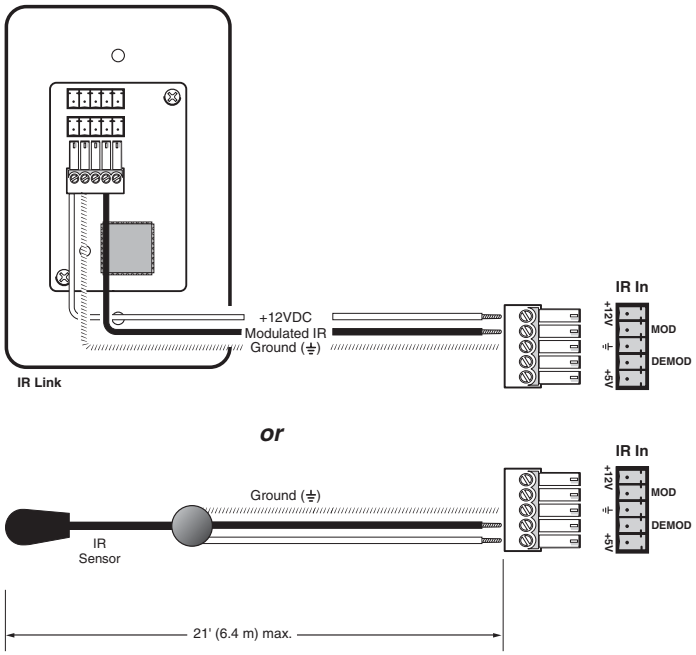

***Power connector wiring***

**NOTE** *Do not tin the stripped power supply leads before installing the captive screw connector. Tinned wires are not as secure in the captive screw connectors and could pull out.*

**WARNING** *The two power cord wires must be kept separate while the power supply is plugged in. Remove power before continuing.*

To verify the polarity before connection, plug in the power supply with no load and check the output with a voltmeter.

③ **IR In connector** — Plug the cable from the IR sensor or from an Extron IR Link infrared repeater into this 3.5 mm, 5-pole captive screw connector.




***Wiring the IR Link and IR Sensor***

**NOTE** *The cable length for the IR sensor is 6 feet (1.8 meters). Do not extend the IR sensor cable beyond 21 feet (6.4 meters).*

④ **Contact / RS-232 (Control Out) connector (captive screw)** — Plug the contact closure/RS-232 output cable into this 3.5 mm, 10-pole captive screw connector, and plug the other end of the cable into the switcher's contact closure/RS-232 control port. This permits the IR 102 Rx remote receiver to control the switcher.

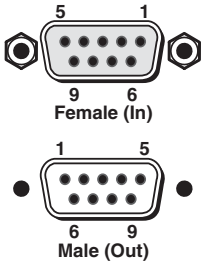


**NOTE** *The IR 102 Kit can be used with an Extron MPS 112 switcher only when the switcher is in single switch mode. Refer to the "MPS 112 User's Manual."*

⑤ **RS-232/Contact – Out connector** (9-pin D) — Plug the RS-232 or contact closure output cable into this 9-pin D connector, and plug the other end of the cable into the switcher's contact closure/RS-232 control port. This permits the IR 102 Rx remote receiver to control the switcher. The pin assignments are listed in the following table.

**NOTE** *See the note for ④.*

**NOTE** *Connect RS-232 or contact closure, but not both. Remove the pins that are not needed.*




| Pin | RS-232 In | RS-232 Out | Contact Closure |
|---|---|---|---|
| 1 | — | — | Input #1 |
| 2 | TX | RX | — |
| 3 | RX | TX | — |
| 4 | — | — | Input #2 |
| 5 | Gnd | Gnd | Gnd |
| 6 | — | — | Input #3 |
| 7 | — | — | Input #4 |
| 8 | — | — | Input #5 |
| 9 | — | — | Input #6 |

**NOTE** *The cable used to connect the RS-232/Contact – Out connector to a computer, control system, or contact closure device may need to be modified by removing pins or cutting wires. If unneeded pins are connected, the system may "hang" (suspend communication indefinitely).*

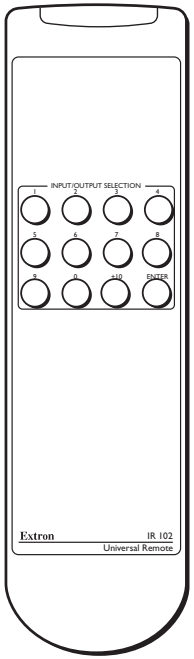
**For RS-232 control and IR control**, use a control cable with only pins 2, 3, and 5 connected. If other pins are connected, either cut the wires to the other pins if the cable has a hard-shelled connector, or remove the other pins if the cable has a molded plug.

**For contact closure**, use a control cable with pins 2 and 3 not connected. If the cable has pins 2 and 3 connected, cut the wires to these pins if the cable has a hard-shelled connector, or remove these pins if the cable has a molded plug.

⑥ **RS-232 In connector** — Plug the RS-232 input cable into this 9-pin D connector to permit a PC or control system to control the switcher, even though the switcher's RS-232 connector is occupied by the IR 102 Rx remote receiver. The pin assignments are shown in the table above.

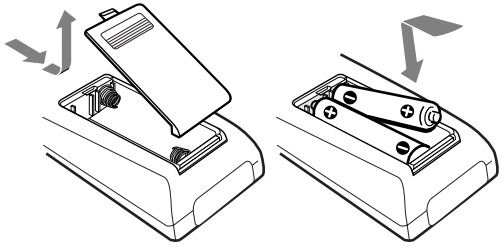
## Installing Batteries in the Remote Control

The IR 102 handheld remote control is shown below.




***IR 102 remote control***

Install two AAA batteries in the remote as shown below. The battery compartment is in the front, bottom side of the remote control.

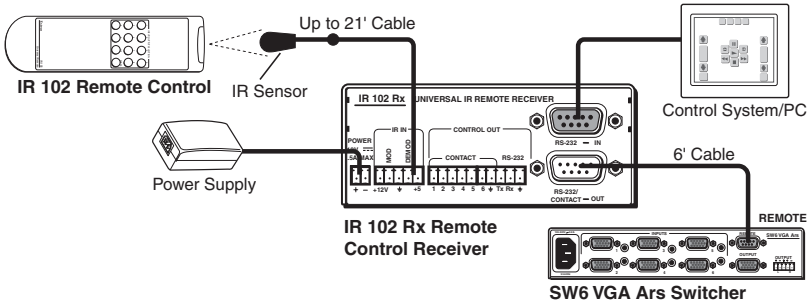


***Installing batteries in the IR 102 remote control***

## Operation

To select an input using the IR 102 remote control, aim the handheld unit at the IR detector and press the numeric button for the desired input. For switchers with ten or more inputs, press the **+10** key to add ten to the input number selected. For example, to select input 17, press the **+10** key, then the **7** key. The maximum operating range is 30 feet.

### Working with a control system




***A typical IR 102 Kit application***

The IR 102 remote receiver connects via cable to the switcher's rear panel RS-232 connector, and it uses the switcher's RS-232 interface for input selection. The remote receiver also has an RS-232 input connector to permit the switcher to be controlled by a computer or control system, regardless of whether the switcher's RS-232 port is occupied by the IR 102 remote receiver.

**NOTE** *The remote control can operate a switcher only if the switcher is configured as master, with no switchers slaved to it. Refer to the switcher's manual for information on switcher configuration.*

# Appendix A

## Specifications, Part Numbers, and Accessories

Specifications

Included Parts

Accessories

# Specifications, Part Numbers, and Accessories

## Specifications

### General

| | |
|---|---|
| Carrier frequency | 38 kHz |
| Max. IR range (between IR handheld remote control and IR sensor) | 30 feet (9.1 meters) |
| Max. IR sensor cable length | 21 feet (6.4 meters) |
| External power supply (included) | 100 VAC to 240 VAC, 50/60 Hz, external, autoswitchable; to 12 VDC, 1 A, regulated |
| Power input requirements | 12 VDC, approximately 30 mA |
| Temperature/humidity | Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing<br>Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing |
| Rack mount | Yes, with an optional 9.5" deep 1U rack shelf, part #60-190-01 or 60-604-01; a 6" deep 1U rack shelf, part #60-190-10 or 60-604-10; or a VersaTools 3.5" deep rack shelf, part #60-190-20 or 60-604-20; also under-furniture-mountable with optional brackets #70-212-01 or projector-mountable with optional brackets #70-217-01/70-077-04 |
| Enclosure type | Metal |
| Enclosure dimensions | 1.7" H x 4.4" W x 3.3" D (1U high, quarter rack wide)<br>4.2 cm H x 11.1 cm W x 8.4 cm D |
| Product weight | 0.4 lbs (0.2 kg) |
| Shipping weight | 2 lbs (1 kg) |
| Vibration | ISTA 1A in carton (International Safe Transit Association) |
| Listings | UL, CUL |
| Compliances | CE, FCC Class A, VCCI, AS/NZS, ICES |
| MTBF | 30,000 hours |
| Warranty | 3 years parts and labor |

**NOTE** *Specifications are subject to change without notice.*



## Included Parts

These items are included in each order for an IR 102 Remote Kit (part #70-224-01):

| Included parts | Replacement part number |
|---|---|
| IR 102 Rx remote receiver | |
| IR 102 Handheld Remote Control | 70-224-10 |
| 12 VDC, 1 A external power supply kit | 70-055-01 |
| IR sensor on a 21' cable | |
| RS-232 Series male-to-female cable (6'/1.8 m) | 26-433-03 |
| IEC power cord | |
| Tweeker (small screwdriver) | |
| Hook-and-loop fasteners | |
| 3.5 mm, 2-pole captive screw connector | 10-319-15 |
| 3.5 mm, 5-pole captive screw connector | 10-319-10 |
| 3.5 mm, 10-pole captive screw connector | 10-319-11 |
| User's manual | |

## Accessories

| Accessories | Part number |
|---|---|
| 1U, 3.5" deep, VersaTools® rack shelf kit (RSF 123) | 60-190-20 |
| 1U, 3.5" deep, basic VersaTools rack shelf (RSB 123) | 60-604-20 |
| 1U, 6" deep, universal rack shelf kit (RSU 126) | 60-190-10 |
| 1U, 6" deep, basic rack shelf (RSB 126) | 60-604-10 |
| 1U, 9.5" deep, universal rack shelf kit (RSU 129) | 60-190-01 |
| 1U, 9.5" deep, basic rack shelf (RSB 129) | 60-604-01 |
| VersaTools mini under-desk mounting bracket kit (MBU 123) | 70-212-01 |
| VersaTools mini projector mounting kit (PMK 100) | 70-367-01 |

# Specifications, Part Numbers, and Accessories

| Accessories | Part number |
|---|---|
| VersaTools multi-product projector mounting kit (PMK 300) | 70-374-01 |
| VersaTools multi-product projector mounting kit (PMK 350) | 70-563-02, -03 |